

PURCHASE DESCRIPTION

SWR TEST SET

TS2FM-B

1.0 GENERAL This procurement requires an SWR Measuring Test Set designed to make standing wave measurements in coaxial transmission systems. The equipment shall also be capable of operating from either an ac line or portable dc power source.

2.0 CLASSIFICATION The tuned voltmeter described herein shall meet the requirements of MIL-T-28800D, Type III, Class 5, Style E, Color R for Navy shipboard, submarine, and shore applications with the following exceptions:

- a. The non-operating temperature requirement is limited to the range of -40°C to +70°C.
- b. The relative humidity requirement is limited to 95% noncondensating.
- c. The operating and non-operating altitude requirements are not invoked.
- d. The EMI requirement is not invoked.

3.0 OPERATIONAL REQUIREMENTS The equipment shall be capable of producing signals within the parameters and accuracies specified herein.

3.1 Frequency Characteristics

3.1.1 Range: 3 GHz to 12 GHz (coaxial)

3.2 Measurement Characteristics

3.2.1 SWR Meter

3.2.1.1 Frequency: Tuned to 1000 Hz
3.2.1.2 Bandwidth: At least 15 Hz to 120 Hz
3.2.1.3 Dynamic Range: At least 70 dB
3.2.1.4 Attenuator Accuracy: ± 0.05 dB/10 dB step
3.2.1.5 Recorder Output: For driving X-Y recorder

3.2.2 VSWR

3.2.2.1 Meter Sensitivity: At least $0.2 \mu\text{V}_{\text{rms}}$ full scale at maximum bandwidth
3.2.2.2 Noise Level: At least 7 dB below full scale; sensitivity $0.2 \mu\text{V}$

3.2.3 Residual SWR

3.2.3.1 APC-7 Connectors: At least 1.04
3.2.3.2 Type N Connectors: At least 1.06

4.0 GENERAL REQUIREMENTS

4.1 Dimensions: The total volume of the unit shall not exceed 16,400 cm³ (1,000 in³).

4.2 Weight: The total weight of the unit shall not exceed 9.1 kg (20 lb).

4.3 Power: 115/230 Vac $\pm 10\%$, single phase, 50/60 or 400 Hz $\pm 10\%$, 5 VA maximum, or rechargeable battery for portable operation, at least 24 hr/charge

4.4 Calibration Interval: The calibration interval shall be at least 12 months minimum. The equipment shall

be within all accuracy requirements specified herein, with a 72% or greater confidence factor following a calibration interval of 12 months.

- 5.0 ACCESSORIES
- 5.1 One (1) SWR/Attenuation Meter
- 5.2 One (1) Adjustable Probe Carriage
- 5.3 One (1) Slotted Line Section
- 5.3.1 Coaxial Connectors: APC-7 or type N
- 5.4 Two (2) RF Cables
- 5.5 One (1) Combination Case
- 5.6 One (1) Untuned Probe